REMARKS

Applicants gratefully acknowledged the Examiner's withdrawal of both the restriction requirement and election of species requirement. Reconsideration of the present application in view of the above amendments and following remarks is respectfully requested.

Status of the Claims

Claims 14-36 are presented. Claims 14-16, 18-22, 28-29, 31-32 and 36 are amended. Claims 14-16, 28-29 and 36 are amended to include the **hydrogenated** branched oligo-α-olefin, as supported throughout the specification as originally filed, including claims 17, 30 and 33, now cancelled. This also addresses the indefiniteness rejection, as discussed below. Claims 14, 28 and 36 are amended to eliminate the oligo-α-olefins obtained by oligomerization of only linear α-olefins (original option b)). Claims 14 and 36 are also amended to include functional language regarding the branched oligo-α-olefin or hydrogenated branched oligo-α-olefin being incorporated in a cosmetic or pharmaceutical composition, respectively. Claims 19 and 32 are amended to remove the 2-alkenes from the Markush group, which are not α-olefins. Claims 20-21 and 32 have been amended to correct a proof-reading error, "2-propyl heptane" actually being "2-propyl-1-heptene", as supported in the specification as originally filed, *inter alia* in Example 2, page 18, lines 14-17. Further amendments are also made to correct Markush group language, as well as for clarity. Support is found throughout the specification as originally filed. Claims 17, 30 and 33 are cancelled without prejudice in this action. Claims 1-13 were previously cancelled. No new claims are added.

No new matter has been introduced.

It is noted that claim 22 is objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim.

Summary of the Invention as Claimed

One aspect of the invention as presently claimed is drawn to a **cosmetic composition** containing at least one branched oligo-α-olefin or hydrogenated oligo-α-olefin having side chains of ethyl, propyl or longer branched alkyl chains at least at one branch point, which are obtained by oligomerization of (a) at least one branched C5-C18 α-olefin, or (b) a mixture of a branched C4-C18 α-olefin and a linear C3-C18 α-olefin, or (c) a mixture of various branched C4-C18 α-olefins and linear C3-C18 α-olefins, in the present of a catalyst selected from a Markush group, **wherein the branched oligo-α-olefin or hydrogenated branched oligo-α-olefin is incorporated in a cosmetic composition** (claims 14-16, 18-27). Another aspect of the invention as presently claimed is drawn to an **antiperspirant or deodorant composition** comprising the branched oligo-α-olefin or hydrogenated oligo-α-olefin as described above, and at least one antiperspirant or deodorant active principle (claims 28-29, 31-32, 34-35). Yet another aspect of the invention as now claimed is drawn to a **pharmaceutical composition** containing the branched oligo-α-olefin or hydrogenated oligo-α-olefin as described above, **wherein the branched oligo-α-olefin or hydrogenated branched oligo-α-olefin is incorporated in a pharmaceutical composition** (claim 36).

Rejections under 35 U.S.C. § 112, second paragraph

Previously pending claims 17 and 21 were rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite with regard to lack of antecedent basis. Claim 17 (as well as claims 30 and 33) recited "hydrogenated" oligo-α-olefin, which removes all double bonds so that the composition thus fails to contain the claimed oligo-α-olefin. In response, claims 17, 30 and 33 are cancelled in the present action, thereby mooting the rejection, and the phrase "or hydrogenated branched oligo-α-olefin" is added to base claims 14, 28 and 36, as discussed above, and supported throughout the originally filed specification.

Previously pending claim 21 allegedly lacked antecedent basis in that the claim recited branched α-olefin, whereas claim 19, from which it depended,

recited linear α-olefin. In response, claim dependency has been amended to base claim 14, and the linear α-olefin Markush group has also been included.

In view of these claim amendments and remarks, the Examiner is respectfully requested to withdraw the indefiniteness rejections.

Rejections under 35 U.S.C. § 102(b)

Previously pending claims 14-18, 23-26 and 36 were rejected under 35 U.S.C. § 102(b) as being anticipated by Collin (US 6,464,967; "Collin"). Applicants respectfully traverse the rejection.

Collin discloses a mascara makeup composition in the form of a wax-in-water emulsion, comprising at least one poly-alpha-olefin wax of melting point from 50-80°C, resulting from the homopolymerization of alpha-olefins, R-$CH=CH_2$, in which R is C10-C30 **linear** alkyl (col. 2, lines 32-37).

Even though applicants do not necessarily agree with the Examiner's characterizations of Collin, in order to further prosecution, the claims have been amended in a manner which overcomes the anticipation rejection. Thus, as presently amended, the claims recite an oligo-alpha-olefin-containing composition, in which the oligo-alpha-olefin must be comprised at least partially of **branched** alpha-olefin monomers. In contrast, Collin teaches **linear** alpha-olefins as the monomers which are homopolymerized to obtain the indicated polyolefin wax; there is no teaching of branched species in the patent. It is well-known to those skilled in the art that branching produces compounds with lower melting points, and would therefore produce oligo-alpha-olefins which are not **waxes** of melting point 50-80°C.

Further, although Collin incorporates Wood, US 4,060,569, by reference (as recited by the Examiner in the present Office Action, page 3, middle) Wood only discloses 3-methyl-1-decene as a branched monomer. This is a **methyl** branched monomer, whereas applicants specifically claim at least one branch point having ethyl, propyl, or longer alkyl chains.

Still further, Collin fails to teach that the oligo-alpha-olefins may be **hydrogenated**. The statement by the Examiner that "the product disclosed by

patent '967 will not have olefins present (the olefin reacts during polymerization), and would be unchanged by hydrogenation…" (Office Action, page 3, bottom) is clearly in error.

Also, as stated in the MPEP, § 2113:

> "The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product."

It is clear in the present case that applicants' products are distinct from those taught in the cited art, due at least to the difference in branching and hydrogenation, which would provide different properties (wax versus oil).

At least for these reasons, applicants' claims as presently amended define subject matter that is novel and patentably unobvious over the cited art.

Previously pending claims 14, 19 and 36 were rejected under 35 U.S.C. § 102(b) as being anticipated by Rath et al. (US 6,133,209; "Rath"). Applicants respectfully traverse the rejection.

Rath discloses simply unsaturated polyolefins of molecular weight 400-1500, having a particular dispersibility, obtained by catalytic dimerization of simply unsaturated olefin-oligomers, useful as additives for fuels or lubricants. The Examiner cited Example 1, drawn to oligo-but-1-ene.

As discussed above, even though applicants do not necessarily agree with the Examiner's characterizations of Rath, in order to further prosecution, the claims have been amended in a manner which overcomes the anticipation rejection. Thus, as presently amended, the claims recite an oligo-alpha-olefin-containing composition, in which the oligo-alpha-olefin must be comprised at least partially of **branched** alpha-olefin monomers. In contrast, Rath teaches **linear** alpha-olefins as the monomers which are homopolymerized to obtain polyolefin.

Further, the Examiner stated that the oligo-but-1-ene alone, in the absence of any other recited component, reads on the claims because the preamble does not carry any patentable weight. In response, claims 14 and 36 have been amended to include functional language requiring incorporation in a cosmetic composition (claim 14) or pharmaceutical composition (claim 36).

At least for these reasons, applicants' claims as presently amended define subject matter that is novel and patentably unobvious over the cited art.

Previously pending claims 14-16, 20-21 and 36 were rejected under 35 U.S.C. § 102(b) as being anticipated by Aykan et al. (US 3,806,470; "Aykan"). Applicants respectfully traverse the rejection.

Aykan discloses **catalysts** comprising compositions having a scheelite type crystal structure, bismuth, and cation vacancies, for the **oxidation**, **ammoxidation** and **oxidative dehydrogenation** of olefins. Aykan fails to disclose the **polymerization** of olefins, or any polyolefin product at all. Instead, as disclosed in the section immediately after that quoted by the Examiner (Office Action, page 5, middle), Aykan "is directed particularly to the oxidation of lower alkenes (3 to 8 carbon atoms) but higher alkenes may also be utilized…" and "is particularly adapted to the conversion of propylene to acrolein, isobutylene to methacrolein, butene-1 or butene-2 to methyl vinyl ketone…and the like." (col. 7, lines 18-32). Therefore, Aykan is an improper reference for an anticipation rejection.

Even though applicants do not agree with the Examiner's characterizations of Aykan, in order to further prosecution, the claims have been amended in a manner which overcomes any alleged anticipation rejection. Thus, as presently amended, the claims recite an **oligo-alpha-olefin-containing composition**, in which the **oligo-alpha-olefin** must be comprised at least partially of **branched** alpha-olefin monomers. In contrast, Ayken fails to teach teaches oligo-alpha-olefins at all.

Further, the Examiner stated that "only the olefin" without any second component, reads on the claims because the preamble does not carry any

patentable weight. Even though applicants believe that the Examiner is mistaken in his application of Aykan to the present invention, as discussed above, claims 14 and 36 have been amended to include functional language requiring incorporation in a cosmetic composition (claim 14) or pharmaceutical composition (claim 36).

At least for these reasons, applicants' claims as presently amended define subject matter that is novel and patentably unobvious over the cited art.

Rejections under 35 U.S.C. § 103(a)

Previously pending claims 14-18 and 23-26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Deckner et al. (US 4,919,934; "Deckner") in view of Collin. Applicants respectfully traverse the rejection.

Deckner discloses wax-based cosmetic stick compositions comprising about 10-50% of a wax, about 5-90% of a poly-alpha-olefin, and preferably, about 1-40% of an active component. Deckner teaches that poly-alpha-olefins of the invention have the structure

R1—C=C—R2

where R1 and R2 are independently C20-C70 alkyl. This means that the poly-alpha-olefins themselves are C42-C142. Compounds of this molecular weight are far outside the compounds presently claimed by applicants (C12-C36, claim 15; preferably C14-C24, claim 16). There is simply no teaching, suggestion, or motivation in Deckner for one skilled in the art to prepare cosmetic compositions with poly-alpha-olefins of much lower molecular weight. Indeed, since Deckner is directed to **wax stick** compositions, it would be counter-intuitive to move toward lower molecular weight in the poly-alpha-olefin component, since lower molecular weight species would be oils/liquids and not waxes. Further, Deckner fails to teach the required branching of applicants' claims as presently amended. As noted above, the branching with substantive alkyl groups (greater than methyl), would lead to non-wax products, that is, liquid or oil. Thus, Deckner actually teaches away from applicants' claims as presently amended.

The addition of Collin, discussed above, fails to cure the substantial deficiencies of Deckner.

For at least these reasons, applicants' claims as presently amended define subject matter that is novel and patentably unobvious over the cited art.

Conclusion

In summary, in view of the above claim amendments and remarks, applicants believe that all of the pending claims as amended are in condition for allowance. The Examiner is respectfully requested to reconsider, withdraw the rejections and allow the claims.

If any additional fees are required in support of this application, authorization is granted to charge our Deposit Account No. 50-1943.

Respectfully submitted,

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